
IN THE UNITED STATES DISTRICT COURT
FOR THE DISTRICT OF UTAH

SQUARE ONE CHOICES INC.,
Plaintiff,
v.
DITEC SOLUTIONS, LLC,
Defendant.

MEMORANDUM
DECISION AND ORDER
DENYING PLAINTIFF'S MOTION
FOR A PRELIMINARY INJUNCTION

Case No. 2:23-cv-555-HCN-DBP

Howard C. Nielson, Jr.
United States District Judge

Plaintiff Square One Choices Inc. moves for a preliminary injunction against Defendant Ditec Solutions, LLC. The court denies its motion.

I.

Square One and Ditec both sell grooved silicone mats that are used with 3D-printing pens. *See* Dkt. No. 56 at 9–10 ¶¶ 9–11; Dkt. No. 66 at 8. 3D-printing pens are “pen-shaped devices that use a heating element to melt filament” made “of a thermoplastic material” that “is soft when heated but hardens when cooled.” Dkt. No. 56 at 7 ¶¶ 1–2. A user can extrude heated filament from a 3D pen into a preformed groove in the surface of a silicone mat, and the filament will harden into an object shaped like the groove that can be readily removed from the groove. *Id.* at 7–8 ¶¶ 1–2, 4–5.

In September 2021, Square One’s founder, Kazimierz Bigus, obtained U.S. Patent Number 11,123,901. *See* Dkt. No. 66-3 at 2. This Patent’s first claim covers “[a] device usable by a drawer for creation of 2-dimensional and 3-dimensional objects using a 3-D drawing pen.” *Id.* at 15 (5:51–52). “[S]aid device comprises a flexible mat including” two specific features. *Id.* at 15 (5:53). First:

a number of templates, each said template is characterized with a template surface including a plurality of template grooves of predetermined shapes and

predetermined sizes; said template grooves each defines walls and a bed; said template grooves are capable of being filled in with a filament extruded by the 3-D drawing pen, such that the filament forms the 2-dimensional and 3-dimensional objects; said template grooves function as a guide for the drawer and as a depository for the filament thereby allowing for a correct and accurate formation of said 2-dimensional and 3-dimensional objects, through containing the filament laid within the walls of said template grooves.

Id. at 15 (5:54–66). Second:

a fuse-and-join area functioning as a base for concentrically placing the 2-dimensional and 3-dimensional objects formed within said number of templates as parts for assembling thereof into a complex 3-dimensional object, and joining said 2-dimensional and 3-dimensional objects by the filament extruded by the 3-D drawing pen; wherein said filament functions as a joiner for said parts; and wherein said fuse-and-join area is characterized by a plurality of fuse-and-join grooves having sizes exceeding the respective predetermined sizes of said template grooves by an extra length, the extra length is at least one size of predetermined sizes of said template grooves, and thereby producing an external edge of the base.

Id. at 15 (6:1–14).¹

A patent examiner initially denied Mr. Bigus’s patent application in an Office action on the ground that the claimed invention was obvious in light of prior art. *See* Dkt. No. 66-4 at 7. This prior art was the 3Doodler Start kit, which includes several “DoodleBlocks” with preformed grooves that can be filled using a 3D pen. *See id.*; *see also* Dkt. No. 56 at 17 (photograph of the DoodleBlocks).

In response, Mr. Bigus amended the first claim to require that “the extra length” of a mat’s fuse-and-join grooves be “at least one size of predetermined sizes of said template grooves, and thereby producing an external edge of the base.” *See* Dkt. No. 66-4 at 4. He then argued that the DoodleBlocks did not include a “fuse-and-join area” as defined in his amended

¹ In addition to the first claim, the ’901 Patent includes five additional claims, all of which are dependent—either directly or indirectly—on the first claim. *See* Dkt. No. 66-3 at 15 (6:15–63).

application. *See id.* at 7. Mr. Bigus also represented that “the present invention, and more particularly, the fuse and join area . . . mitigates and addresses the problem of structural integrity [by] allowing for placing [the] sides of [a] 3D figure on [a] sturdily locked base that is slightly larger by the width of the groove on each side and allows for fusing the sides properly from the outside . . . thereby providing [a] complete and structurally integral 3D figure.” *Id.* at 13. Mr. Bigus’s amended application was granted, and he assigned the ’901 Patent to Square One shortly thereafter. *See* Dkt. No. 56 at 10 ¶ 14 n.16.

Square One then represented to Amazon.com, Inc. that Ditec’s 3D pen mat—the MYNT3D mat—infringes the ’901 Patent and requested that Ditec’s mat be removed from Amazon.com. *See id.* at 11 ¶ 16. Ditec denied that its mat infringes, and Amazon did not remove the mat. *See id.* at 11 ¶¶ 16–17.

Approximately one year after the ’901 Patent was approved, Square One sued Ditec for patent infringement in the Southern District of New York. *See* Dkt. No. 1. Square One did not request injunctive relief in its complaint. *See id.* at 7–8. After Ditec argued that venue was not proper in that District, the action was transferred to the District of Utah in August 2023, *see* Dkt. No. 30.

In January 2024—more than sixteen months after the action was filed—Square One moved for a preliminary injunction that would bar Ditec from selling the MYNT3D mat. *See* Dkt. No. 56. The court held an evidentiary hearing on Square One’s motion and heard testimony from four individuals, including Mr. Bigus. *See* Dkt. Nos. 82, 83.

II.

As a threshold matter, it is unclear whether a preliminary injunction is even available in this action given the final relief Square One seeks. In its complaint, Square One seeks only

declaratory relief, money damages, and fees—it does not request an injunction barring Ditec from infringing its patent. *See* Dkt. No. 1 at 7–8. The Supreme Court has made clear that preliminary equitable relief is unavailable in an action seeking only money damages. *See Grupo Mexicano de Desarrollo S.A. v. All. Bond Fund, Inc.*, 527 U.S. 308, 310, 324–27, 333 (1999); *see also United States ex rel. Rahman v. Oncology Assocs., P.C.*, 198 F.3d 489, 496 (4th Cir. 1999) (describing “*Grupo Mexicano*’s holding” as “providing specifically that the general equitable powers of the federal courts do not include the authority to issue preliminary injunctions in actions solely at law”). And because the “intermediate relief” Square One now seeks in its motion is not “of the same character as that which” it seeks “finally,” the court is not persuaded that such preliminary relief is available. *De Beers Consol. Mines, Ltd. v. United States*, 325 U.S. 212, 220 (1945).

To be sure, Square One maintains that it has “establish[ed] a relationship between the injury claimed in [its] motion” for a preliminary injunction and “the conduct asserted in [its] complaint.” Dkt. No. 69 at 11 (quoting *Devose v. Herrington*, 42 F.3d 470, 471 (8th Cir. 1994) (per curiam)); *see also Little v. Jones*, 607 F.3d 1245, 1251 (10th Cir. 2010) (adopting this standard from *Devose*). And the “injury claimed in [Square One’s] motion” and “the conduct asserted in the complaint” do both relate to Ditec’s alleged infringement of Square One’s patent. *Compare* Dkt. No. 1 at 4–7 ¶¶ 16–30, *with* Dkt. No. 56 at 10–13. Certainly, establishing such a relationship is a *necessary* prerequisite to preliminary relief. But it is doubtful that doing so is *sufficient*. To the contrary, as the Ninth Circuit has intimated in applying the *Devose* rule, it is likely also necessary to “compar[e] the relief sought in a preliminary injunction [motion] with the final relief sought in the original complaint.” *Pacific Radiation Oncology, LLC v. Queen’s Med. Ctr.*, 810 F.3d 631, 636 (9th Cir. 2015). Not only is such a requirement consistent with the

Supreme Court's decisions in *Grupo Mexicano* and *De Beers*, but Square One has not cited a single case in which a court granted preliminary equitable relief to a plaintiff who did not request final equitable relief in the complaint.

In the alternative, Square One notes that its Complaint includes not only specific prayers for declaratory relief, money damages, and fees, but also a general prayer for "such further relief at law or in equity as the Court deems just and proper." Dkt. No. 1 at 8. Square One argues that this catch-all prayer should be construed as a request for a final injunction because "[t]he Patent Act allows injunctive relief." Dkt. No. 69 at 11. Courts have rejected this argument, however, concluding that "[t]he mere incantation of such boilerplate language" does not amount to "a legitimate request for equitable relief." *E.g., Rosen v. Cascade Int'l, Inc.*, 21 F.3d 1520, 1526 n.12 (11th Cir. 1994).

Finally, Square One contends that it should be allowed to amend its complaint to request final injunctive relief if such a request is necessary to obtain the preliminary relief it seeks. *See* Dkt. No. 69 at 11; Dkt. No. 93 at 11. But Square One has not filed a motion for leave to amend under Federal Rule of Civil Procedure 15. And as the Federal Circuit has recognized, "the Tenth Circuit takes a dim view of 'drive-by requests to amend the complaint,' having 'repeatedly held that a bare request to amend in response to a motion to dismiss is insufficient to place the court and opposing parties on notice of the plaintiff's request to amend and the particular grounds upon which such a request would be based.'" *Simio, LLC v. FlexSim Software Prods., Inc.*, 983 F.3d 1353, 1366 (Fed. Cir. 2020) (quoting *Johnson v. Spencer*, 950 F.3d 680, 721 (10th Cir. 2020)). The same rule no doubt governs the cursory request for leave to amend included in Square One's response to Ditec's arguments here.

III.

Assuming Square One may nevertheless seek a preliminary injunction, its request for such relief is governed by Federal Circuit precedent because Square One seeks to enjoin “the violation of [a] right secured by a patent.” *Hybritech Inc. v. Abbott Lab’ys*, 849 F.2d 1446, 1451 n.12 (Fed. Cir. 1988) (discussing 35 U.S.C. § 283). To “obtain a preliminary injunction” under that precedent, Square One must show “that (1) it is ‘likely to succeed on the merits,’ (2) it is ‘likely to suffer irreparable harm in the absence of preliminary relief,’ (3) the ‘balance of equities tips in its favor,’ and (4) ‘an injunction is in the public interest.’” *BlephEx, LLC v. Myco Indus., Inc.*, 24 F.4th 1391, 1398 (Fed. Cir. 2022) (quoting *Winter v. Nat. Res. Def. Council, Inc.*, 555 U.S. 7, 20 (2008)) (cleaned up).

Square One “cannot be granted a preliminary injunction unless it establishes *both* of the first two factors, *i.e.*, likelihood of success on the merits and irreparable harm.” *Amazon.com, Inc. v. Barnesandnoble.com, Inc.*, 239 F.3d 1343, 1350 (Fed. Cir. 2001). Further, because “a preliminary injunction is a drastic and extraordinary remedy,” *Intel Corp. v. ULSI Sys. Tech., Inc.*, 995 F.2d 1566, 1568 (Fed. Cir. 1993), the court may grant Square One’s motion only “upon a clear showing that [Square One] is entitled to such relief,” *Winter*, 555 U.S. at 22. The court concludes that Square One has failed to make such a showing here because it has failed to demonstrate that it is likely either to succeed on the merits or suffer irreparable injury in the absence of preliminary relief.

A.

Square One contends that Ditec’s MYNT3D mat infringes the ’901 Patent. To show a likelihood of success on the merits of this claim, Square One must establish that (1) it “will likely prove that” Ditec’s mat infringes the ’901 Patent and (2) Ditec’s arguments that the ’901 Patent

is invalid lack “substantial merit.” *Amazon.com*, 239 F.3d at 1350–51 (quoting *Genentech, Inc. v. Novo Nordisk, A/S*, 108 F.3d 1361, 1364 (Fed. Cir. 1997)). The court concludes that Square One has failed to satisfy either requirement.

1.

“It is well settled that an infringement analysis involves two steps: the claim scope is first determined, and then the properly construed claim is compared with the accused device to determine whether all of the claim limitations are present” *Id.* at 1351. In this case, the ’901 Patent contains an independent first claim and several additional claims, all of which are dependent—either directly or indirectly—on the first claim. *See* Dkt. No. 66-3 at 15 (5:51–66, 6:1–63). It follows that Ditec’s MYNT3D mat infringes only if it satisfies all of the first claim’s limitations.

The parties primarily dispute the meaning of the following limitation:

a fuse-and-join area functioning as a base for concentrically placing the 2-dimensional and 3-dimensional objects formed within said number of templates as parts for assembling thereof into a complex 3-dimensional object, and joining said 2-dimensional and 3-dimensional objects by the filament extruded by the 3-D drawing pen; wherein said filament functions as a joiner for said parts; and wherein said fuse-and-join area is characterized by a plurality of fuse-and-join grooves having sizes exceeding the respective predetermined sizes of said template grooves by an extra length, the extra length is at least one size of predetermined sizes of said template grooves, and thereby producing an external edge of the base.

Id. at 15 (6:1–14). Square One maintains that this limitation is satisfied so long as a fuse-and-join groove is *at least* one groove width longer than a respective template groove. It does not matter, on this view, whether the fuse-and-join groove is longer than a template groove by one groove width, by several groove widths, or even by a length that is not an even multiple of a groove width, such as three-and-a-quarter groove widths, because, Square One argues, the claim

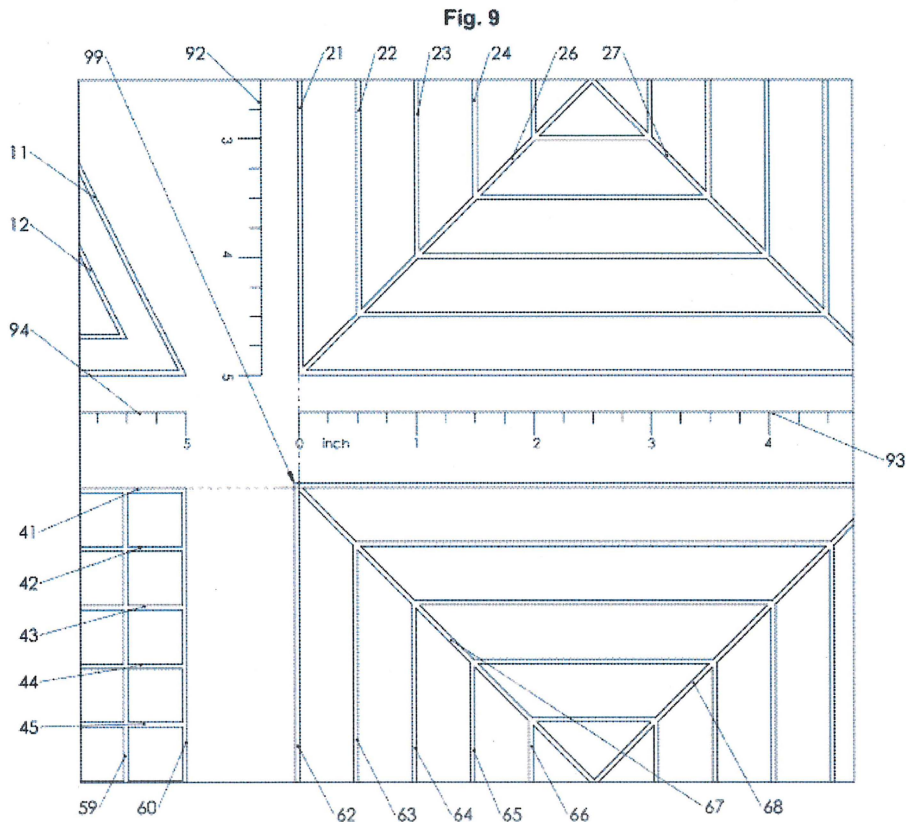
language “encompasses ‘extra length’ values that are double (and non-multiples of) a template groove width.” Dkt. No. 91 at 5.

Square One’s construction of “at least one size of predetermined sizes of said template grooves” is plausible, at least when that language is read in isolation. Both parties agree that “one size of predetermined sizes of said template grooves” denotes one groove width. Further, the patent requires that a fuse-and-join groove be longer than a respective template groove by “at least” one groove width, and the phrase “at least” ordinarily means “not less than” and typically covers any value equal to or greater than a minimum value. *Least*, The American Heritage Dictionary of the English Language (5th ed. 2020).

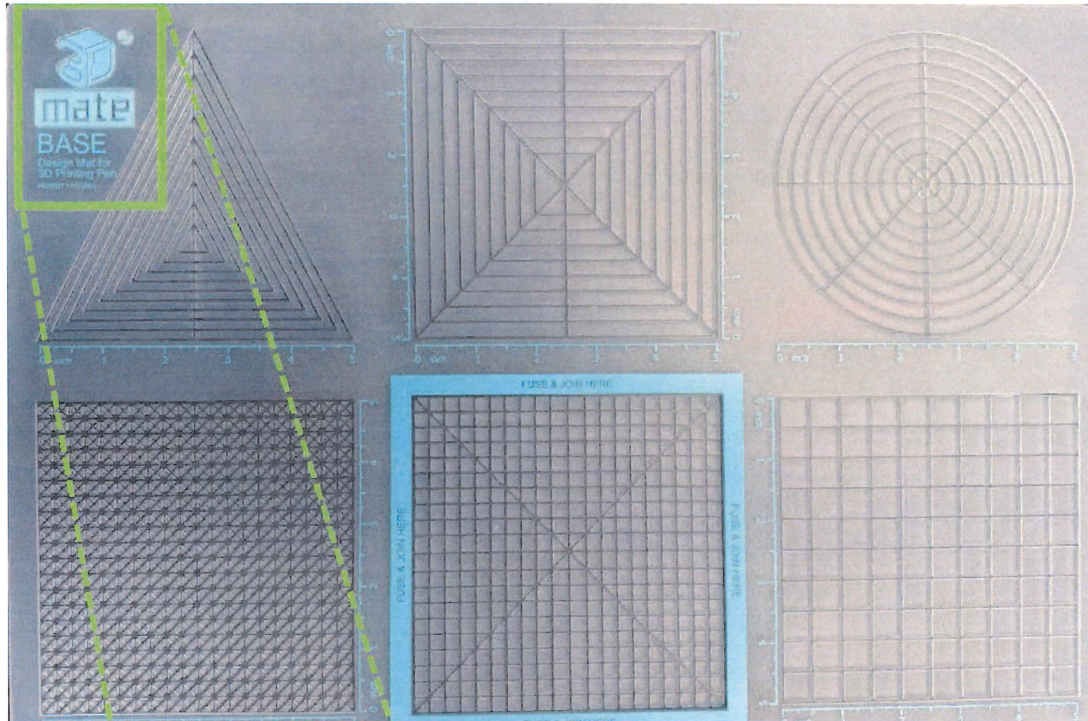
The language on which Square One focuses is not the only requirement of the disputed limitation, however. The disputed limitation also requires that the fuse-and-join area “function[] as a base,” and that the “extra length” of a fuse-and-join grooves “produc[e] an external edge of the base.” Dkt. No. 66-3 at 15 (6:1, 9–14). The claim language makes clear that the fuse-and-join area must function as a base in two respects. First, it must function as a base “for concentrically placing the 2-dimensional and 3-dimensional objects formed within” the template grooves “as parts for assembling thereof into a complex 3-dimensional object.” *Id.* (6:1–5). Second, it must function as a base for “joining said 2-dimensional and 3-dimensional objects by the filament extruded by [a] 3-D drawing pen; wherein said filament functions as a joiner for said parts.” *Id.* (6:5–8).

These requirements are readily satisfied if the fuse-and-join grooves are only slightly longer than the corresponding template grooves. For example, in both the preferred embodiment of the invention described in the specification of the ’901 Patent as well as Square One’s 3Dmate

Base mat—which appears to implement this embodiment—the fuse-and-join grooves appear to be exactly two groove widths longer on each side than the corresponding template grooves:



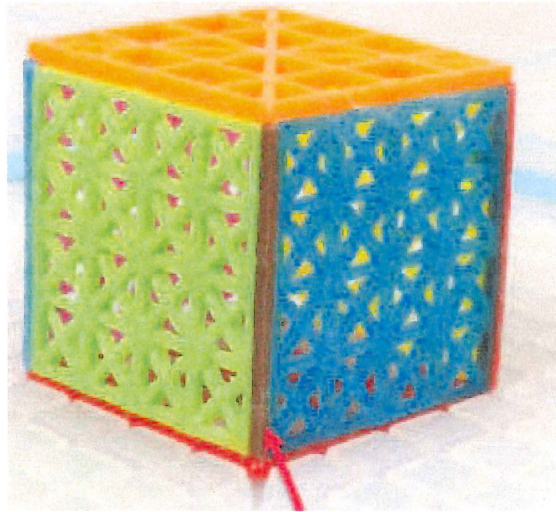
Dkt. No. 66-3 at 12 ('901 Patent's specification) (depicting one corner of a square fuse-and-join groove (62) that is longer than the corresponding template groove (21) by exactly one groove width on each end of each side of the square).



Dkt. No. 66-8 at 2 (3Dmate Base mat with the fuse-and-join area labeled “FUSE & JOIN HERE”). Because the preferred embodiment and the 3Dmate Base mat have fuse-and-join grooves that are just two groove widths longer on each side than the corresponding template grooves, the fuse-and-join grooves can “produc[e] an external edge of the base” and the fuse-and-join area can satisfy both requirements for “functioning as a base.”

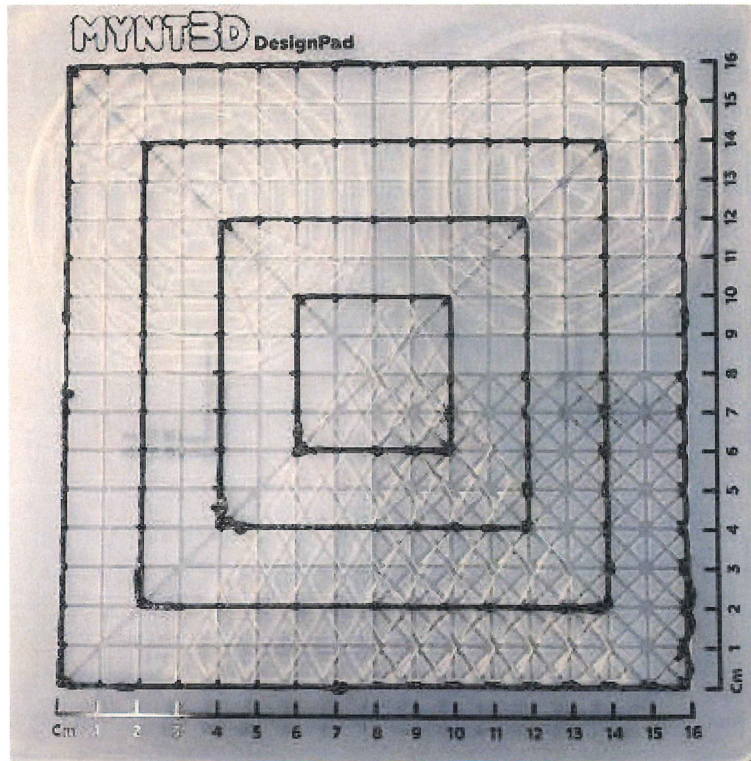
By way of illustration, a user can form four squares in one of the mat’s square template grooves. The user can then place those squares “concentrically” in the corresponding fuse-and-join groove, as is required for the fuse-and-join area to meet the first requirement for functioning as a base. Each square will be directly adjacent to two of the other squares, with a tiny open space at each corner of the fuse-and-join groove that has a surface area of one groove width squared—marked “99” in the Patent’s depiction of the preferred embodiment shown above. The user can then join the squares by using a 3D pen to extrude filament into the small open spaces between the squares that start in the corners of the fuse-and-join groove and continue vertically

along the sides of the squares. The filament will then “function[] as a joiner for” the squares. The user can thus assemble the four squares “formed within” one of the template grooves into “a complex 3-dimensional object”—in this case, four faces of a cube—by using the fuse-and-join area as a “base” as described in the claim:



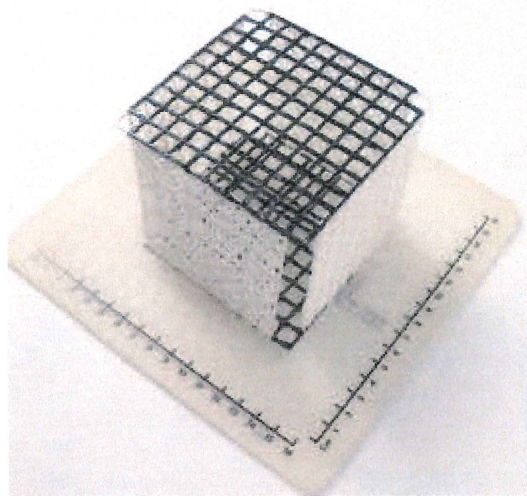
Dkt. No. 56-3 at 3 (depicting a perfect “cube created using” a 3Dmate Base mat; the cube “has an edge created with filament (as indicated by the red arrow)” continuing from the bottom of the fuse-and-join groove along the sides of the squares).

But if each side of a fuse-and-join groove is longer than each side of the corresponding template groove by significantly more than two groove widths, it is unclear how that “extra length” can “produc[e] an external edge of the base” so that the fuse-and-join area can “functio[n] as a base” for joining objects formed in the template grooves with a 3D pen in the manner described in the patent. For example, on the accused device—Ditec’s MYNT3D mat—each square groove has a width of one-and-a-half millimeters and is larger (or smaller) than the other square grooves by ten millimeters or more. *See* Dkt. No. 80 at 3; Dkt. No. 83 at 72 (72:19–23):



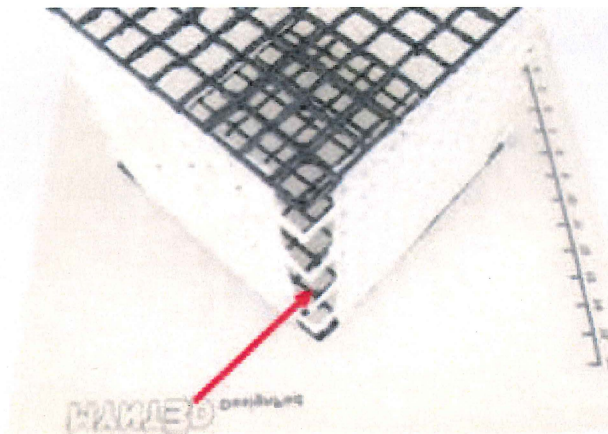
Dkt. No. 56-3 at 5 (depicting one side of the MYNT3D mat, with filament in four concentric square grooves).

Square One argues that the MYNT3D mat's larger square grooves satisfy the patent's limitation for a fuse-and-join area with respect to the smaller square grooves (which on this view would be the template grooves). But if a user creates four squares in one of the MYNT3D mat's grooves and places them "concentrically" in one of the mat's larger grooves, the user cannot position them so that each square is directly adjacent to two of the others. Because the alleged "fuse-and-join" groove is larger than the allegedly corresponding "template" groove by significantly more than two groove widths per side, there will be large gaps between the four squares:



Dkt. No. 69-1 at 11 (depicting four squares placed concentrically in the MYNT3D mat with large gaps between the squares).

And because of these large gaps, it is not readily apparent how they can be joined simply by using “filament extruded by the 3-D drawing pen” in the manner described by the first claim:



Id. at 12 (depicting the objects joined with multiple L-shaped corner pieces). It thus seems doubtful that a 3D pen mat with alleged “fuse-and-join grooves” that are longer than the allegedly corresponding template grooves by significantly more than two groove widths per side satisfy the limitations of the first claim.

This understanding is further supported by the '901 Patent's prosecution history. As explained, Mr. Bigus's patent application was initially rejected. The rejected application claimed

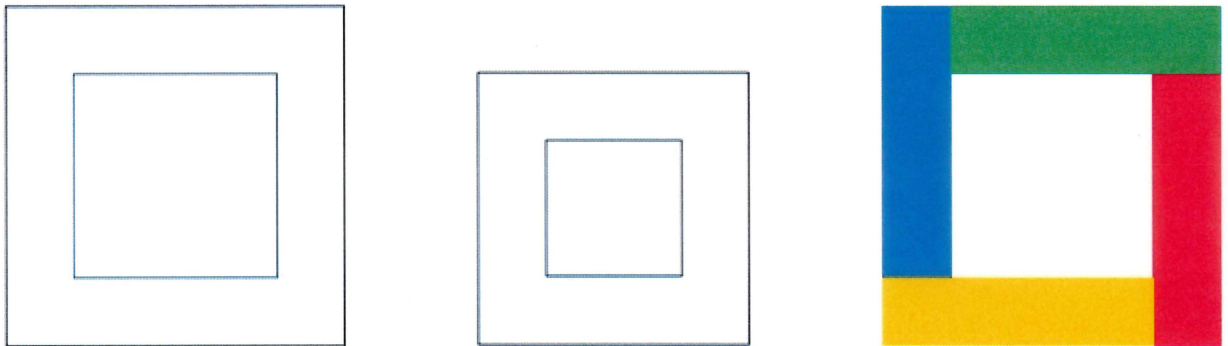
a “fuse-and-join area . . . characterized with a surface including a plurality of fuse-and-join grooves of sizes exceeding the respective predetermined sizes of said template grooves by an extra length,” but it did not define that “extra length.” Dkt. No. 66-4 at 4. Square One amended its application to specify that “the extra length is at least one size of predetermined sizes of said template grooves, and thereby producing an external edge of the base.” *Id.* Perhaps more important for current purposes, Square One also specifically represented that “the present invention”—not one particular embodiment, or even the preferred embodiment, of the claimed invention—“mitigates and addresses the problem of structural integrity and allow[s] for placing [the] sides of [a] 3D figure on [a] sturdily locked base that is *slightly larger by the width of the groove on each side* and allows for fusing the sides properly from the outside . . . thereby providing [a] complete and structurally integral 3D figure.” *Id.* at 13 (emphasis added). Whether or not Square One “unequivocally and unambiguously disavow[ed]” its current construction, triggering “the doctrine of prosecution history disclaimer,” *Biogen Idec, Inc. v. GlaxoSmithKline LLC*, 713 F.3d 1090, 1095 (Fed. Cir. 2013), the explanation Square One offered for its amendments strongly supports the understanding that to satisfy the limitations of the first claim, fuse-and-join grooves cannot be significantly larger than the corresponding template grooves.²

² To be clear, the court does not adopt Ditec’s interpretation that to satisfy the disputed limitation, the extra length of the fuse-and-join grooves must be “exactly” one groove width. Leaving aside the textual difficulty of interpreting “at least” to mean “exactly,” Ditec’s interpretation would appear to exclude the preferred embodiment discussed in the specification (as well as Square One’s 3Dmate Base mat, which is clearly based on the preferred embodiment) from the scope of the patent’s claims given that the fuse-and-join grooves in the preferred embodiment are *two* groove widths longer on each side than the corresponding template grooves.

Further, it is not clear that objects formed in template grooves could be “concentrically plac[ed]” in fuse-and-join grooves exactly one groove width longer on each side than the corresponding template grooves and joined in the manner described in the first claim. To be sure, the objects formed in the template grooves could be made to fit in the corresponding fuse-and-join grooves—though perhaps not “concentrically,” since the places where the objects touch

Because Square One fails to show it likely that the '901 Patent covers 3D pen mats, such as Ditec's MYNT3D mat, with alleged "fuse and join" grooves that are significantly more than two groove widths longer per side than the allegedly corresponding template grooves, the court concludes that Square One has not shown a likelihood of success on its infringement claim.³

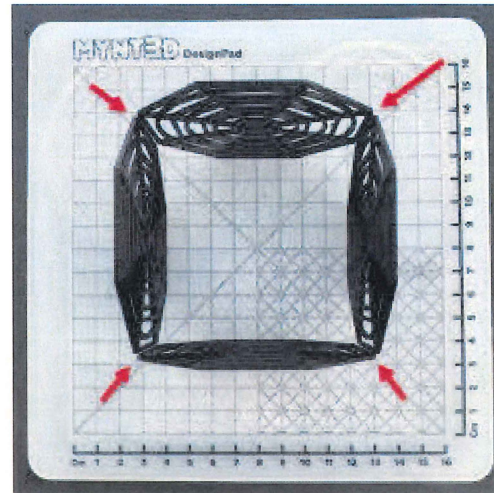
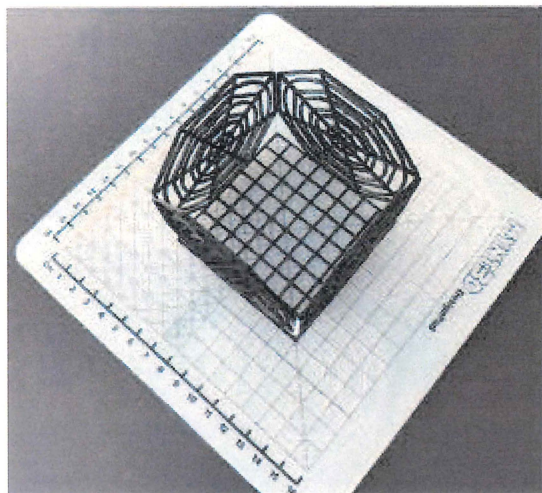
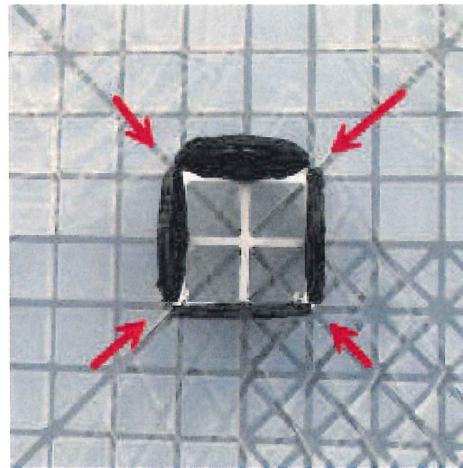
would not be at the corners of the fuse-and-join groove. Regardless, there would be no space between the objects to insert filament:



This simple graphic depicts a square groove (left) that is one groove width longer on each side than another square groove (middle). If four squares are formed in the smaller groove and placed in the larger groove (right, depicting a top-down view of the four squares shown in different colors), there will be no space between the squares.

³ Shortly before the evidentiary hearing, Square One submitted a supplemental declaration of Mr. Bigus, in which he argues that even if the fuse-and-join grooves cannot be significantly longer than the template grooves, the accused mat nevertheless satisfies each element of the first claim. *See* Dkt. No. 80. Mr. Bigus's supplemental declaration identifies two square grooves on the accused mat that allegedly serve as fuse-and-join grooves for two octagonal grooves on the other side of the mat.

This argument probably fails. Mr. Bigus appears to be correct that four octagons formed in the octagonal grooves can be placed in the square grooves, and that portions of the edges of the octagons will be directly adjacent:



Id. at 4, 6.

But under the first claim, the “fuse-and-join grooves” must have “sizes exceeding the *respective* predetermined sizes” of the “template grooves by an extra length.” This language clearly contemplates that specific fuse-and-join grooves will correspond to specific template grooves. It is unclear how or why the square groove on Ditec’s mat can be said to be the “fuse-and-join” groove for a “*respective*” octagonal template groove.

Further, because the octagons can be “concentrically plac[ed]” in the square grooves and “assembl[ed] . . . into a complex 3-dimensional object,” the alleged “fuse-and-join” area may in this case “functio[n] as a base” in *one* of the two ways required by the first claim. But it is not clear that the “fuse-and-join area” in this case can be said to “functio[n] as a base for . . . joining” the octagons placed in it—as *also* required by the patent—given the large gaps between the respective edges of the octagons that are “concentrically place[d]” in the alleged “fuse-and-join” groove and the fact that the octagons are joined not at the “base” where they are secured to the mat, but in the air above that “base.”

In all events, it is doubtful that anything in the first claim or the ’901 Patent specification instructs a user to locate and identify template grooves of one shape as “fuse-and-join” grooves

2.

Further, the Federal Circuit has made clear that

if the trial court concludes there is a ‘substantial question’ concerning the validity of the patent, meaning that the alleged infringer has presented an invalidity defense that the patentee has not shown lacks substantial merit, it necessarily follows that the patentee has not succeeded in showing it is likely to succeed at trial on the merits of the validity issue.

Titan Tire Corp. v. Case New Holland, Inc., 566 F.3d 1372, 1379 (Fed. Cir. 2009) (quoting *New England Braiding Co. v. A.W. Chesterton Co.*, 970 F.2d 878, 883 (Fed. Cir. 1992)). The court concludes that if Square One’s construction of the ’901 Patent is correct, there is a substantial question regarding the patent’s validity.

Under 35 U.S.C. § 112(a), a patent’s “specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art . . . to make and use the same.” “To be enabling, the specification of a patent must teach those skilled in the art how to make and use *the full scope* of the claimed invention without undue experimentation.” *MagSil Corp. v. Hitachi Glob. Storage Techs., Inc.*, 687 F.3d 1377, 1380 (Fed. Cir. 2012) (emphasis added) (cleaned up).

Ditec argues that if Square One’s construction of the first claim is correct, the ’901 Patent’s specification does not enable a person skilled in the art to practice the full scope of Square One’s invention. The court is inclined to agree. Specifically, if each side of a fuse-and-join groove is longer than each side of a respective template groove by significantly more than two groove widths, the specification does not appear to enable someone to use the fuse-and-join

for “respective” template grooves of an entirely different shape, or to use the former grooves to join objects made in the latter grooves in the air above the former grooves. Thus, even if the first claim could be construed to cover Ditec’s mat in the manner Mr. Bigus suggests, it is doubtful whether the patent enables such an application of the invention. *Cf.* Part IV.A.2.

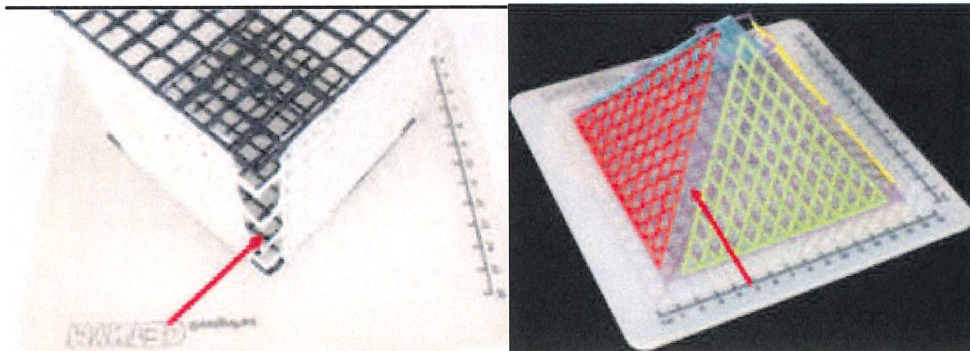
groove “as a base” for “joining” “objects formed within” the template groove using “the filament extruded by [a] 3-D drawing pen” without undue experimentation.

The court has little doubt that the specification enables joining in this manner if a square fuse-and-join groove is larger than a square template groove by exactly—or even approximately—two groove widths per side. In these circumstances, as explained above, four squares formed in the template groove can be placed concentrically in the fuse-and-join groove, and the edges and corners of the squares will be directly adjacent to one another. The specification explains that a user then “can rely on an external edge, along the sides and corners, which can work as a basis for placing the parts to join upon, and to lay the extruded melted plastic for it to work as a joiner.” Dkt. No. 66-3 at 15 (5:39–42). It further explains that when objects are “closely plac[ed]” in the fuse-and-join area, they can be “tightened together” by “laying . . . melted filament . . . on the corners of the” objects. *Id.* (5:26–31) In other words, the user can simply extrude filament in the narrow spaces between the four squares to join them.

But the specification does not address circumstances in which each side of an alleged fuse-and-join groove is longer than each side of an allegedly corresponding template groove by significantly more than two groove widths. To be sure, Mr. Bigus asserted at the evidentiary hearing that joining “would work” even if a fuse-and-join groove was much longer than the respective template grooves. Dkt. No. 83 at 73 (73:6–7). But if four objects formed in such a template groove are placed concentrically in the fuse-and-join groove, the user could not use the fuse-and-join groove as a “base” for joining the objects in the manner described in the patent, because each object would not be directly adjacent to two of the other four objects. *See* Part IV.A.1. Because the specification’s explanation of joining depends on there being small open spaces between the objects when placed in the “external edge” of the base—where the user can

“lay the extruded melted plastic for it to work as a joiner”—it does not explain how to join objects if the open spaces are significantly larger.

Square One does provide photographs of cubes and pyramids that were formed in the square grooves of Ditec’s MYNT3D mat:



E.g., Dkt. No. 95-5 at 12. And at the evidentiary hearing, Mr. Bigus attempted to explain how to use the MYNT3D mat—or any mat in which alleged fuse-and-join grooves are significantly larger than their allegedly corresponding template grooves—as a fuse-and-join area for joining squares into cubes. *See* Dkt. No. 83 at 115–16 (115:12–116:1).

But what Mr. Bigus said at the hearing differed radically from anything in the specification: in addition to fusing squares together, Mr. Bigus explained that it is necessary to create multiple separate “corner” pieces, which must then be individually fused “into the [greater] structure.” *Id.* The red arrows in the above photographs indicate how L-shaped corner pieces are necessary to join squares created in template grooves. This method is unintuitive, it is significantly more complicated than simply joining four squares along their sides, and it is not described in any way in the specification.

Indeed, Mr. Bigus acknowledged at the evidentiary hearing that a user could not learn how to use the method he described at the hearing by “just reading [the] patent.” *Id.* at 121 (121:22–24). And while he initially suggested that “any person that’s familiar with 3D pens, just

like Devin Montes, Hana Gorman,” would know how to join objects in the manner he described, he ultimately conceded that the video referenced in Mr. Montes’ declaration showed him creating a cube *without* using a fuse-and-join area as a base. *Id.* at 121–22 (121:24–122:23). And in its post-hearing briefs, Square One did not explain how a person skilled in the art could apply Mr. Bigus’s joining method to a mat with alleged fuse-and-join grooves significantly larger than the allegedly corresponding template grooves without undue experimentation.

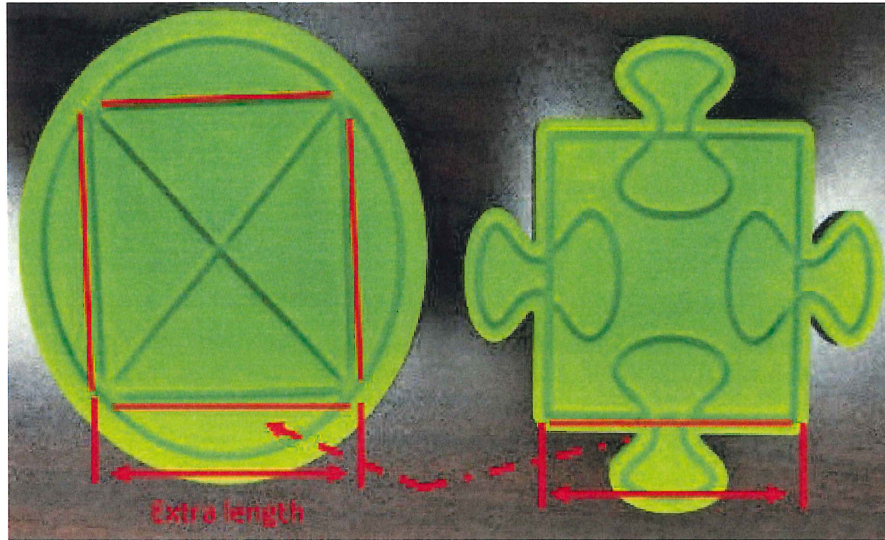
Because Square One fails to show that Ditec’s invalidity defense of non-enablement “lacks substantial merit,” the court concludes that there is a “substantial question concerning the validity of the patent” and that Square One has accordingly “not succeeded in showing it is likely to succeed at trial on the merits of the validity issue.”

3.

Ditec also argues that the ’901 Patent is invalid because it is obvious in light of the 3Doodler Start prior art. “A patent for a claimed invention may not be obtained . . . if the differences between the claimed invention and the prior art are such that the claimed invention as a whole would have been obvious before the effective filing date of the claimed invention to a person having ordinary skill in the art to which the claimed invention pertains.” 35 U.S.C. § 103. “[I]n appropriate circumstances, a patent can be obvious in light of a single prior art reference if it would have been obvious to modify that reference to arrive at the patented invention.” *Arendi S.A.R.L. v. Apple Inc.*, 832 F.3d 1355, 1361 (Fed. Cir. 2016). The court concludes that Square One fails to show that Ditec’s argument lacks “substantial merit” and thus that there is yet another “substantial question concerning the validity of the patent.”

Specifically, Ditec persuasively argues that the 3Doodler DoodleBlocks satisfy all—or at least nearly all—of the first claim’s limitations, and that any limitation they do not satisfy

“would have been obvious” to incorporate. *Id.* Most importantly, Ditec points out that the DoodleBlocks satisfy the “extra length” requirement because one of the blocks includes a square groove that is undisputedly longer on each side than a square groove in a different block:



Dkt. No. 66-9 at 23.

To be sure, Square One maintains that Ditec has not “presented any evidence that the Doodle Blocks can be used as a fuse-and-join area,” Dkt. No. 93 at 7, because they do not provide a “base” for “joining” objects. But Ditec has provided photographs showing that objects formed in the smaller groove can be placed “concentrically” in the larger groove, with the edges and corners of the objects adjacent to one another:



Dkt. No. 66-9 at 21. While these photographs do not show the objects being joined with filament, they support a clear inference—based on the proximity of the objects—that joining them in this

manner would be possible. At the very least, Square One has not shown that Ditec's argument that the DoodleBlocks satisfy this limitation "lacks substantial merit."

Square One also argues that the DoodleBlocks do not satisfy the requirement that the fuse-and-join and template grooves be contained in "a flexible mat." Dkt. No. 93 at 7 (emphasis added). But the Federal Circuit "has repeatedly emphasized that an indefinite article 'a' or 'an' in patent parlance carries the meaning of 'one or more' in open-ended claims containing the transitional phrase 'comprising.'" *KCJ Corp. v. Kinetic Concepts, Inc.*, 223 F.3d 1351, 1356 (Fed. Cir. 2000) (collecting cases). This rule likely applies here, because the phrase "a flexible mat" follows the transitional term "comprises." Dkt. No. 66-3 at 15 (5:53). To be sure, there is "[a]n exception to the general rule that 'a' or 'an' means more than one . . . where the language of the claims themselves, the specification, or the prosecution history necessitate a departure from the rule." *Baldwin Graphic Sys., Inc. v. Siebert, Inc.*, 512 F.3d 1338, 1342–43 (Fed. Cir. 2008). The court sees no reason why this exception would apply here. And because Square One addresses neither this general rule nor its exception, the court is not convinced that a collection of flexible mats that are packaged and sold together—like the DoodleBlocks—cannot satisfy each limitation of the first claim.

But even assuming the DoodleBlocks do not satisfy this limitation, a court may invoke "common sense . . . to supply a limitation that [is] admittedly *missing* from the prior art" if "the limitation in question [is] unusually simple and the technology particularly straightforward." *Arendi*, 832 F.3d at 1362. Here, the first claim's "flexible mat" limitation certainly appears to meet this description. The limitation probably does not "play a major role in the subject matter claimed"; if fuse-and-join and template grooves are located on separate mats, the first claim would not be "void of content" because users could still use the mats to make "2-dimensional

and 3-dimensional objects using a 3-D drawing pen,” which is the primary purpose of the invention. *Id.* (cleaned up); Dkt. No. 66-3 at 15 (5:51–52). The possible absence of this limitation from the prior art thus does not establish that Ditec’s argument that the ’901 Patent is obvious in light of the DoodleBlocks lacks “substantial merit.”

Square One argues that Ditec copied Square One’s mat rather than the DoodleBlocks and that Ditec’s alleged decision to do so demonstrates that its patent is innovative and not obvious in light of the DoodleBlocks. *See* Dkt. No. 91 at 11–13. But even assuming that Ditec did copy Square One’s mat and that Square One’s mat is more commercially attractive than the DoodleBlocks, the Federal Circuit has emphasized that “commercial success is deemed a ‘secondary’ indicator of nonobviousness” “for a variety of reasons.” *Ritchie v. Vast Res., Inc.*, 563 F.3d 1334, 1336 (Fed. Cir. 2009) (emphasis added). As that court has explained, “[t]he commercial success of a product can have many causes unrelated to patentable inventiveness; for example, the commercial success of an ‘invention’ might be due not to the invention itself but to skillful marketing of the product embodying the invention.” *Id.* Because the court concludes that “primary” indicators of nonobviousness favor Ditec—it appears that the DoodleBlocks satisfy each limitation of the first claim, with the possible exception of the unusually simple “flexible mat” limitation—it cannot conclude that Square One has shown that Ditec’s obviousness defense “lacks substantial merit” because of secondary economic indicators like copying. *BlephEx*, 24 F.4th at 1399 (quoting *Entegris, Inc. v. Pall Corp.*, 490 F.3d 1340, 1351 (Fed. Cir. 2007)).

For these reasons as well, the court concludes that Square One fails to show a likelihood of success on the merits.

B.

The court also concludes that Square One has not made “a clear showing,” *Winter*, 555 U.S. at 22, that “it is likely to suffer irreparable harm if [an] injunction is not granted” or that there is “a causal nexus between [Ditec’s] alleged infringement and the alleged harm” that Square One fears. *Natera, Inc. v. NeoGenomics Lab’ys, Inc.*, 106 F.4th 1369, 1378 (Fed. Cir. 2024).

1.

As an initial matter, the court concludes that Square One unreasonably delayed seeking preliminary relief, which suggests that Ditec’s alleged infringement does not pose a harm “that no damages payment, however great, could address.” *Celsis In Vitro, Inc. v. CellzDirect, Inc.*, 664 F.3d 922, 930 (Fed. Cir. 2012).

It is well settled that courts may consider a plaintiff’s delay in seeking preliminary relief in determining whether the plaintiff has shown a likelihood of irreparable harm. As both the Tenth Circuit and the Federal Circuit have recognized, “delay in bringing an infringement action and seeking a preliminary injunction are factors that could suggest that the patentee is not irreparably harmed by [alleged] infringement.” *E.g., Apple, Inc. v. Samsung Elecs. Co., Ltd.*, 678 F.3d 1314, 1325 (Fed. Cir. 2012) (citing *Nutrition 21 v. United States*, 930 F.2d 867, 872 (10th Cir. 1991)). In determining whether a substantial delay weighs against a likelihood of irreparable harm, courts consider whether the delay was unreasonable, as “there may well be reasons for the patent owner’s [delay] independent of any implied concession that the infringement-caused injury is not actually irreparable: for example, the competitive threat may initially be small, or the merits may be much better presented through full litigation than through abbreviated

preliminary-injunction proceedings.” *Genband US LLC v. Metaswitch Networks Corp.*, 861 F.3d 1378, 1385 (Fed. Cir. 2017).⁴

The ’901 Patent was granted on September 21, 2021, and Ditec was already producing the MYNT3D mat at that time. *See* Dkt. No. 66-3 at 2; Dkt. No. 66-2 at 4 ¶ 19. But Square One did not file its complaint against Ditec until September 8, 2022—nearly one year later. *See* Dkt. No. 1. Thereafter, Square One did not seek preliminary relief until January 16, 2024—more than 16 months later. *See* Dkt. No. 56. Altogether, Square One did not seek injunctive relief for approximately 28 months after the ’901 Patent was granted—even though Ditec was allegedly infringing the patent by selling the accused device the entire time. By any measure, Square One’s delay—first in bringing this action, then in seeking preliminary relief—was substantial. Indeed, it is nearly a year more than the seventeen months that the Federal Circuit has held “is a substantial period of delay that militates against the issuance of a preliminary injunction by demonstrating that there is no apparent urgency to the request for injunctive relief.” *See High Tech Med. Instrumentation, Inc. v. New Image Indus., Inc.*, 49 F.3d 1551, 1557 (Fed. Cir. 1995).

Nor has Square One provided a “good explanation” for this delay. *Id.* It primarily argues that its delay was reasonable because “the harm” posed by Ditec’s alleged infringement “spiked significantly with Ditec’s Black Friday price decrease,” purportedly resulting in 30 percent fewer

⁴ The Tenth Circuit appears to apply a different test than the Federal Circuit to assess the relevance of a plaintiff’s delay in seeking preliminary relief. In addition to considering whether a “delay was reasonable,” the Tenth Circuit also considers whether the delaying party “s[at] on its rights” and whether the opposing party was prejudiced by the delay. *See Fish v. Kobach*, 840 F.3d 710, 753 (10th Cir. 2016) (quoting *RoDa Drilling Co. v. Siegal*, 552 F.3d 1203, 1212 (10th Cir. 2009)). Because the parties here appear to agree that Federal Circuit precedent governs the court’s analysis of the preliminary injunction factors, the court does not consider these additional factors identified by the Tenth Circuit. *Compare* Dkt. No. 66 at 14–15 (Ditec) (asserting that Federal Circuit precedent governs the court’s analysis of the preliminary injunction factors), *with* Dkt. No. 69 at 8–9 (Square One) (responding to Ditec’s argument regarding delay without citing Tenth Circuit precedent).

sales of Square One's 3D pen mat products for Black Friday 2023 than for the previous Black Friday. Dkt. No. 69 at 7–9. But this explanation does not withstand scrutiny.

First, the evidence in the record contradicts Square One's allegation that its Black Friday sales were a "tipping point" in its decision to seek a preliminary injunction. Indeed, Mr. Bigus has acknowledged that Square One "sen[t] a letter to Ditec notifying of Square One's intention" to seek preliminary relief in *November* 2023, even though it did not become "aware of publicly available data showing that" its Black Friday sales decreased until *December* 2023. Dkt. No. 69-2 at 12, 13 ¶¶ 52, 54, 56. Further, Mr. Bigus represents that Square One's decision to seek a preliminary injunction was triggered by "legal analysis considering the existence of a two-player market, the harm from lost sales and lost market share," and other reasons apart from Square One's Black Friday sales. *Id.* at 12 ¶ 53. In addition, an email from Leo Gureff—Square One's lawyer—reveals that "one of the motivating factors for Square One to seek the preliminary injunction is not the number of sales that Ditec enjoys, but the anticompetitive advantage Ditec enjoys by bundling the 3D pen with the mat that infringes on the '901 Patent." Dkt. No. 66-7 at 5 (cleaned up). Taken together, this evidence leaves little doubt that poor Black Friday sales were not Square One's primary motivation for seeking a preliminary injunction; instead, Square One was motivated by the Ditec's competitive presence in the 3D pen mat market and by Ditec's exclusive arrangement with 3Doodler for selling 3D pens.⁵ *See* Dkt. No. 91 at 20.

⁵ Mr. Bigus's declaration and Mr. Gureff's email also mention as motivating factors the facts that the '901 Patent was granted despite the 3Doodler Start prior art and that Ditec failed to provide non-infringement and invalidity contentions to Square One. *See* Dkt. No. 69-2 at 12 ¶ 53 (referring to "the Patent Office's previous rejection of Ditec's main invalidity reference"); Dkt. No. 66-7 at 5 (lamenting "Ditec's unsupported and unexplained to this date non-infringement and invalidity positions"). But these factors do not change the court's analysis regarding delay. Square One was obviously aware that the '901 Patent had been granted—despite the 3Doodler Start prior art—well before Black Friday 2023. And at the evidentiary hearing, Mr. Gureff

These reasons for seeking preliminary relief, however, were known to Square One long before Black Friday 2023. Ditec first began selling the MYNT3D mat in August 2020. *See* Dkt. No. 66-2 at 4 ¶ 19. [REDACTED]

[REDACTED] Moreover, the evidence shows that Square One's prices have been declining since 2019. *See, e.g.*, Dkt. No. 66-10 (showing that Square One's prices for its 3Dmate Base mat dropped from about \$50 to about \$30 in 2019). Even if this decline was caused by competitors selling 3D pen mats, as Square One argues, Square One clearly had notice of the effects of competition in the 3D pen mat market long before November 2023. [REDACTED]

Second, even assuming that Square One's decision to seek a preliminary injunction was at least partially motivated by its poor Black Friday sales, the evidence does not suggest that those sales were so poor as to justify Square One's delay. Square One alleges that its Black Friday 2023 sales decreased 30 percent from the same period in 2022. Ditec does not contest this precise allegation, but it notes that Square One's overall sales for 2023 *increased* from 2022, and, more specifically, that Square One's sales increased in October, November, and December of 2023 from the same period in 2022. *See* Dkt. No. 66 at 27; Dkt. No. 93 at 2. [REDACTED]

conceded that Ditec's non-infringement and invalidity contentions "were submitted at the time required." Dkt. No. 83 at 129 (129:17-19).

Moreover, the alleged downstream consequences of Square One's Black Friday sales do not justify Square One's delay. Square One asserts that because of its poor sales, Amazon removed its brand name from its product listings. *See* Dkt. No. 91 at 19. But Ditec notes—and Square One does not dispute—that Square One's products (and brand name) are currently among the first results for a “3D pen mat” Amazon keyword search. *See* Dkt. No. 88 at 21. Square One also asserts that its poor Black Friday sales resulted in surplus inventory and a corresponding risk that it would incur “Amazon's long-term storage fees.” Dkt. No. 56 at 12 ¶ 22. But because Square One had at least 180 days to unload its surplus inventory before incurring those fees, the prospect of incurring them was not an “urgent matter” that excused Square One's delay in seeking preliminary relief. Dkt. No. 66 at 27–28; *see also* Dkt. No. 66-15; Dkt. No. 69-2 at 9–10 ¶ 40 (Mr. Bigus's recognition that these fees “apply[] [only] after inventory is stored for 181 days.”).⁶

2.

The court further concludes that Square One has failed to make a clear showing that it will likely suffer irreparable injury if a preliminary injunction is not granted because it has not shown that its declining sales are likely attributable to Ditec's sales, as opposed to other market

⁶ Square One's additional attempts to provide a reasonable explanation for its delay in seeking preliminary relief are likewise insubstantial. First, Square One seeks to attribute its delay in bringing this action after it received its patent to its attempts both to negotiate a settlement with Ditec and to convince Amazon not to carry Ditec's MYNT3D mat. *See* Dkt. No. 69 at 8. But even if this could justify the delay in bringing suit, it does not explain the additional, nearly sixteen-month delay in seeking preliminary relief. Next, Square One seeks to justify its delay between bringing suit and seeking a preliminary injunction on the ground that Ditec's motion to dismiss for lack of proper venue was pending during much of this time. *See* Dkt. No. 69 at 9. But if Square One believed—as it argued in response to Ditec's motion—that venue lay in the Southern District of New York, *see* Dkt. No. 24, it had no good reason not to bring a motion for a preliminary injunction promptly in that District.

forces, and thus has not established a likely causal nexus between the harm it fears and Ditec's alleged infringement.

First, Square One has not made a clear showing that Ditec's alleged infringement likely caused its poor Black Friday 2023 sales. At the evidentiary hearing, Mr. Bigus conceded that Square One sold its mats at a lower price for Black Friday 2022 than for Black Friday 2023, even though Ditec offered a Black Friday sale for its mats both years. *See* Dkt. No. 83 at 95–97 (95:16–97:17). Mr. Bigus further conceded that Square One's poor Black Friday 2023 sales may have resulted from Square One's pricing decisions, not from Ditec's alleged infringement. *See id.* at 96 (96:22–25).

Second, Square One has not provided sufficient evidence to show that its declining mat sales were not likely caused by other market forces. Ditec persuasively argues [REDACTED], and thus that Square One's allegedly declining sales in late 2023 and early 2024 were likely caused by waning consumer interest and demand. In support of its argument, [REDACTED]
[REDACTED]
[REDACTED] Diminishing consumer demand in 3D pen mats is likewise suggested by the steady decline of Square One's prices since 2019. *See* Dkt. No. 66-10. As Square One's counsel stated at the evidentiary hearing, a 3D pen

mat is “[b]asically . . . a toy,” and it is certainly plausible that the novelty of this “toy” has worn off. Dkt. No. 83 at 9 (9:22).⁸

* * *

For the foregoing reasons, Square One’s motion for a preliminary injunction is **DENIED**.

IT IS SO ORDERED.

Dated this 21st day of March, 2025.

BY THE COURT:



Howard C. Nielson, Jr.
United States District Judge

⁸ To be sure, Square One cites evidence that Ditec’s sales of *3D pens* has been steadily increasing. *See* Dkt. No. 69-2 at 104–09. But it does not address sales by other vendors or offer evidence that the overall market for 3D pens is growing. Even if the market for 3D pens is increasing, moreover, Square One has provided no evidence that the two markets are strongly correlated—it merely takes that for granted. It is of course plausible that demand for 3D pens is increasing even as demand for 3D pen mats is decreasing.